DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

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National Institute for Occupational
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July 15, 2005
HETA 2001-0445
Interim Letter VI

Mike Winkler, President
Administrative and Residual Employees Union Local 4200
705 North Mountain Road, Suite A211
Newington, Connecticut 06111

Dear Mr. Winkler:

Enclosed with this letter is a copy of the report submitted to NIOSH by Environmental Health and Engineering (EH&E), Inc. entitled: "Preliminary Paper Exposure Study, 25 Sigourney Street, Hartford, CT". This report provides the results from an exploratory study performed by EH&E in cooperation with the University of Connecticut Health Center Division of Occupational and Environmental Medicine (UCHC/DOEM).

The study evaluated particular papers, including paper forms, reported to cause respiratory or dermal reactions when handled by specific workers in the building ("case" paper). For comparison purposes, the study similarly evaluated other papers not reported to cause adverse reactions ("reference" papers), which were either: 1) paper that had been in the building less than 2 years; or 2) paper chosen by the industrial hygienist as paper unlikely to cause such reactions. The method used for the evaluations involved handling the papers in an enclosed glove box. Real-time monitoring equipment sampled the air in the glove box to determine: 1) the number of particles; and 2) the total concentration of volatile organic chemicals released during paper handling. The investigators collected tape-lift samples from surfaces of a representative fraction of case and reference papers and had the samples examined microscopically to determine the types of particles present.

The EH&E report is useful for two main reasons. First, the study findings appear to exclude volatile organic compounds, particle size distribution, and qualitative microscopic differences as likely explanations for the symptoms reported by employees handling paper at 25 Sigourney Street. Second, the findings suggest that, for reasons that remain unknown, handling of 17th-floor case paper releases more particles than handling of 17th-floor reference paper, that handling of 17th-floor case paper releases more particles than handling of case paper from other floors, and that handling of 17th-floor reference paper releases more particles than handling of reference paper from other floors. These findings are intriguing, difficult to explain on the basis of current knowledge, and certainly not conclusive.

The exploratory study by EH&E and UCHC/DOEM was not designed to identify characteristics of the particles or specific agents associated with the adverse responses documented in affected employees. Nevertheless, the findings may prove useful in supporting hypotheses that could be confirmed (or refuted) with further research. Even in the absence of further research on this particular issue, however, the results may provide useful insight for physicians of affected employees with respect to possible further clinical diagnostic evaluations to more specifically document the cause(s) of their particular patient(s)' paper-related reactions and with respect to advice they may offer patients to prevent adverse reactions through avoidance of contact with implicated papers. At this time, resources to conduct such clinical research or evaluations are not available in the Respiratory Disease Hazard Evaluation and Technical Assistance Program or the Field Studies Branch of the Division of Respiratory Disease Studies, which have been responsible for the conduct of our research and evaluations to date at 25 Sigourney Street.

Even though the exploratory study by EH&E and UCHC/DOEM did not identify specific agent(s) associated with the implicated paper, actions can still be taken. In fact, we have been informed by an individual in DRS management that repeated paper-related reactions in two formerly affected employees have ceased following supervisor-approved restricted access to specific paper. We would encourage management to consider these successful examples of administrative solutions and prudently seek to duplicate them (or apply other effective solutions) wherever they may be feasible. In terms of a general preventive approach, there is a precedent for HEPA vacuuming paper in books and archives. Air sampling demonstrated that HEPA vacuuming was sufficient to remove the majority of fungi that may have settled on or in these books and archives.[1]

As you are aware, previous concerns about skin and respiratory reactions in some employees after handling paper had led the Connecticut Department of Public Works to commission a previous study by EnvironMed Services, Inc. in October 2002 to evaluate fungal levels present on paper products from various locations in the 25 Sigourney Street, 92 Farmington, and 38 Wolcott Hill Road facilities. Twelve vacuum samples of dust were collected either from the surface of selected papers or from surfaces in storage areas for paper. No samples were collected on the 17th floor. EnviroMed concluded that papers located inside the building did not have quantifiable amounts of dust and that mold levels were low on paper from occupied portions of the building. However, the authors reported that quantifiable amounts of dust with "high concentrations" of fungi were present in floor dust from the paper storage room located on P1 of the parking garage at 25 Sigourney Street and in dust collected from a paper roll stored outside that room in the garage. EnviroMed recommended changes to paper storage practices that building management has since adopted.

If you have any questions regarding the information provided in this interim letter, please do not hesitate to contact us at 1-800-232-2114.

Sincerely,

Terri A. Pearce, Ph.D. - Industrial Hygienist
Respiratory Disease Hazard Evaluation
and Technical Assistance Program
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Enclosure

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[1] Jarvis J and Morey P. Applied Occupational and Environmental Hygiene. 2001; 16(3): 380-388.